OBSERVATIONS & RECOMMENDATIONS

After reviewing data collected from **EASTMAN POND** the program coordinators recommend the following actions.

FIGURE INTERPRETATION

- Figure 1: These graphs illustrate concentrations of chlorophyll-a in the water column. Algae are microscopic plants that are a natural part of lake ecosystems. Algae contain chlorophyll-a, a pigment necessary for photosynthesis. A measure of chlorophyll-a can indicate the abundance of algae in a lake. The historical data (the bottom graph) show a *fairly stable* in-lake chlorophyll-a trend, although the mean concentration has increased slightly since 1999. Chlorophyll-a concentrations were slightly elevated in June and August this year. The results could be due to an excess amount of nutrients entering the lake through watershed runoff caused by an increase in rain. Mean concentrations remain below the state mean reference line for chlorophyll-a. While algae are present in all lakes, an excess amount of any type is not welcomed. Concentrations can increase when there are external and internal sources of phosphorus, which is the nutrient algae depend upon for growth. It's important to continue the education process and keep residents aware of the sources of phosphorus and how it influences lake quality.

- Figure 2: Water clarity is measured by using a Secchi disk. Clarity, or transparency, can be influenced by such things as algae, sediments from erosion, and natural colors of the water. The graphs on this page show historical and current year data. The lower graph shows an *improving* trend in lake transparency, despite this year's lower average. The decrease in transparency this season might have been caused by the slight increase in algal abundance. The mean clarity fell below the state mean reference line for the first time since 1996. The 2000 sampling season was considered to be wet and, therefore, average transparency readings are expected to be slightly lower than last year's readings. Higher amounts of rainfall usually cause more eroding of sediments into the lake and streams, thus decreasing clarity.

- Figure 3: These figures show the amounts of phosphorus in the epilimnion (the upper layer in the lake) and the hypolimnion (the lower layer); the inset graphs show current year data. Phosphorus is

the limiting nutrient for plants and algae in New Hampshire waters. Too much phosphorus in a lake can lead to increases in plant growth over time. These graphs show a *slightly improving, and less variable*, trend for in-lake phosphorus levels. Phosphorus concentrations were slightly elevated in the epilimnion in August. This correlates with a large amount of rain received during that time, which likely caused an increase in the nutrients entering from the watershed. The spike in phosphorus concentration in the hypolimnion in September was due to the high turbidity of the sample at that time. Sample contamination from bottom sediment can raise concentrations and lead to inaccurate results. The mean epilimnetic concentration was below the state median again this year, while the hypolimnetic average was equal to the state median. One of the most important approaches to reducing phosphorus levels is educating the public. Humans introduce phosphorus to lakes by several means: fertilizing lawns, septic system failures, and detergents containing phosphates are just a few. Keeping the public aware of ways to reduce the input of phosphorus to lakes means less productivity in the lake. Contact the VLAP coordinator for tips on educating your lake residents or for ideas on testing your watershed for phosphorus inputs.

OTHER COMMENTS

- Conductivity levels in the Eastman Pond watershed were slightly decreased from last year's results (Table 6). New Hampshire received a lot rain this summer, which helped to flush nutrients and pollutants from many of the tributaries around the state. We noted in the 1999 report that conductivity has been increasing in #39 Mill Pond Brook and #42 Stroing Brook. This year's slight decline is promising, but we will continue to keep observing these inlets. If the conductivity should again increase next summer it would be wise to collect samples at several sites along each inlet during a rainstorm to help determine the source of pollutants.

- #39 Mill Pond Brook and #42 Stroing Brook also had lower total phosphorus concentrations this year (Table 8). Both inlets have experienced phosphorus concentrations above 50 µg/L in the past, while this year the highest result between the two inlets was 16 µg/L. This is a great improvement for these inlets. We would like to see the phosphorus concentrations stabilize at this level.

- Unfortunately, a dissolved oxygen meter was not available when the DES biologist visited the pond this summer. Luckily, the volunteers at Eastman Pond have been collecting water samples for dissolved oxygen analysis in the Eastman Community Laboratory. The results of the analyses were not entered into our database, but we have records of the results on the Field Data Sheets. It appears that oxygen levels remained high at the bottom of the pond until early September. This is good for the health of the pond.

- *E. coli* originates in the intestines of warm-blooded animals (including humans) and is an indicator of associated and potentially harmful pathogens. Throughout the summer, most of the sites tested had relatively non-existent *E. coli* counts (Table 12). In July, the Mill Pond Beach result was greater than the state standard for public beaches (88 counts per 100 mL). This may have been due to sampler error. This level occurred during the DES biologist visit. At the time of sampling, the monitor mentioned that the community residents rarely used the beach.

NOTES

- Monitor's Note (7/11/00): Dissolved oxygen was analyzed at the Eastman Community Laboratory. Samples were taken at 3m, 7m, and 9.5m.

- Monitor's Note (8/14/00): Rain overnight. Rain three times in past week.

- Monitor's Note (8/21/00): Heavy rainfall for past two weeks.

- Monitor's Note (9/11/00): No rain for past week.

USEFUL RESOURCES

Stormwater Management and Erosion and Sediment Control Handbook. NHDES, Rockingham County Conservation District, USDA Natural Resource Conservation Service, 1992. (603) 679-2790.

Lake Eutrophication, WD-BB-3, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

Effects of Phosphorus on New Hampshire's Lakes, NH Lakes Association pamphlet, (603) 226-0299 or www.nhlakes.org

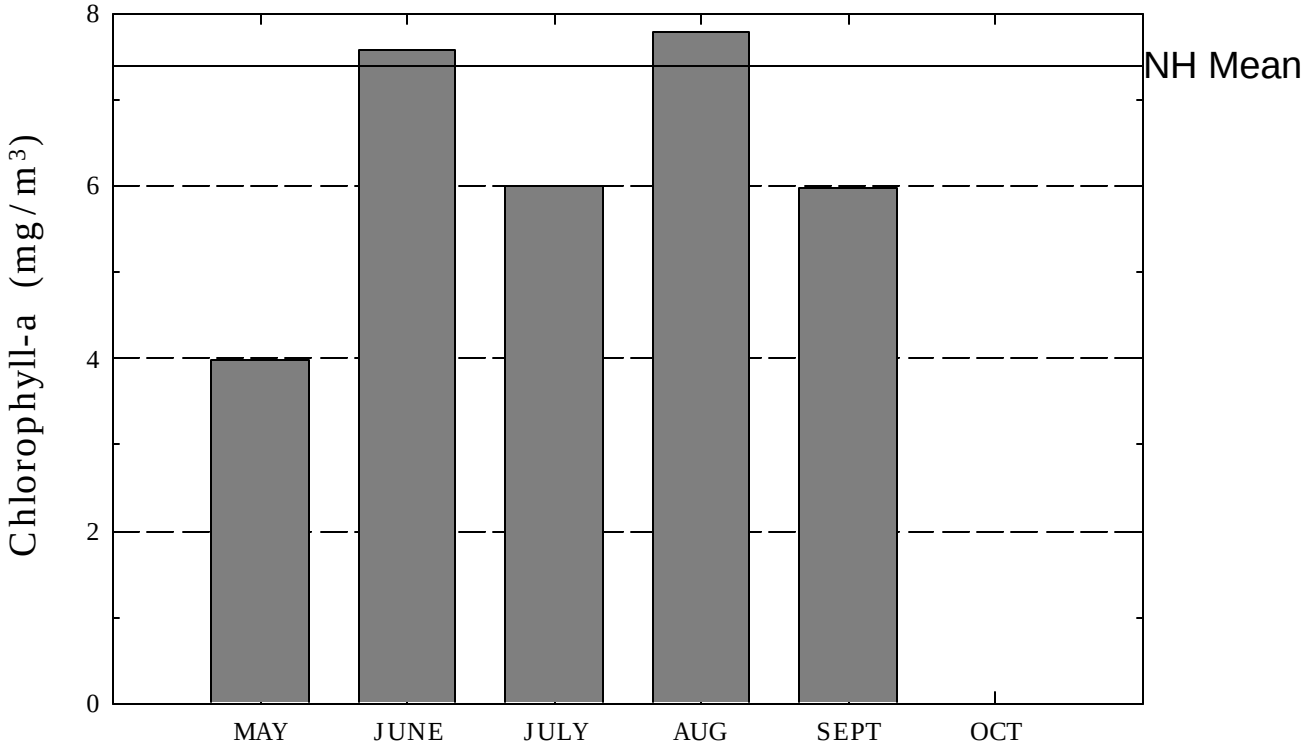
Shoreland Plantings, NH Lakes Association pamphlet, (603) 226-0299 or www.nhlakes.org

Nonpoint Source Pollution and Stormwater Fact Sheet Package. Terrene Institute. (800) 726-5253, or www.terrene.org.

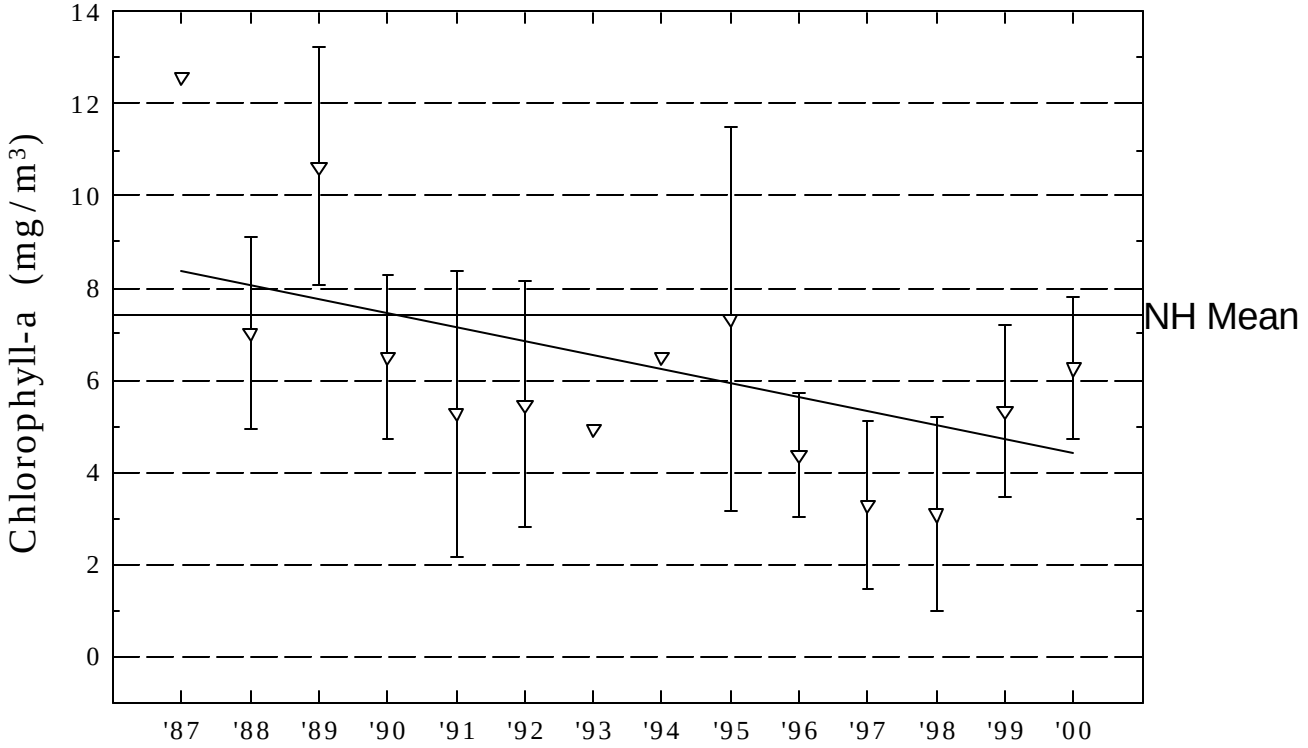
Answers to Common Lake Questions, NHDES-WSPCD-92-12, NHDES Booklet, (603) 271-3503.

Eastman Pond

Figure 1. Monthly and Historical Chlorophyll-a Results



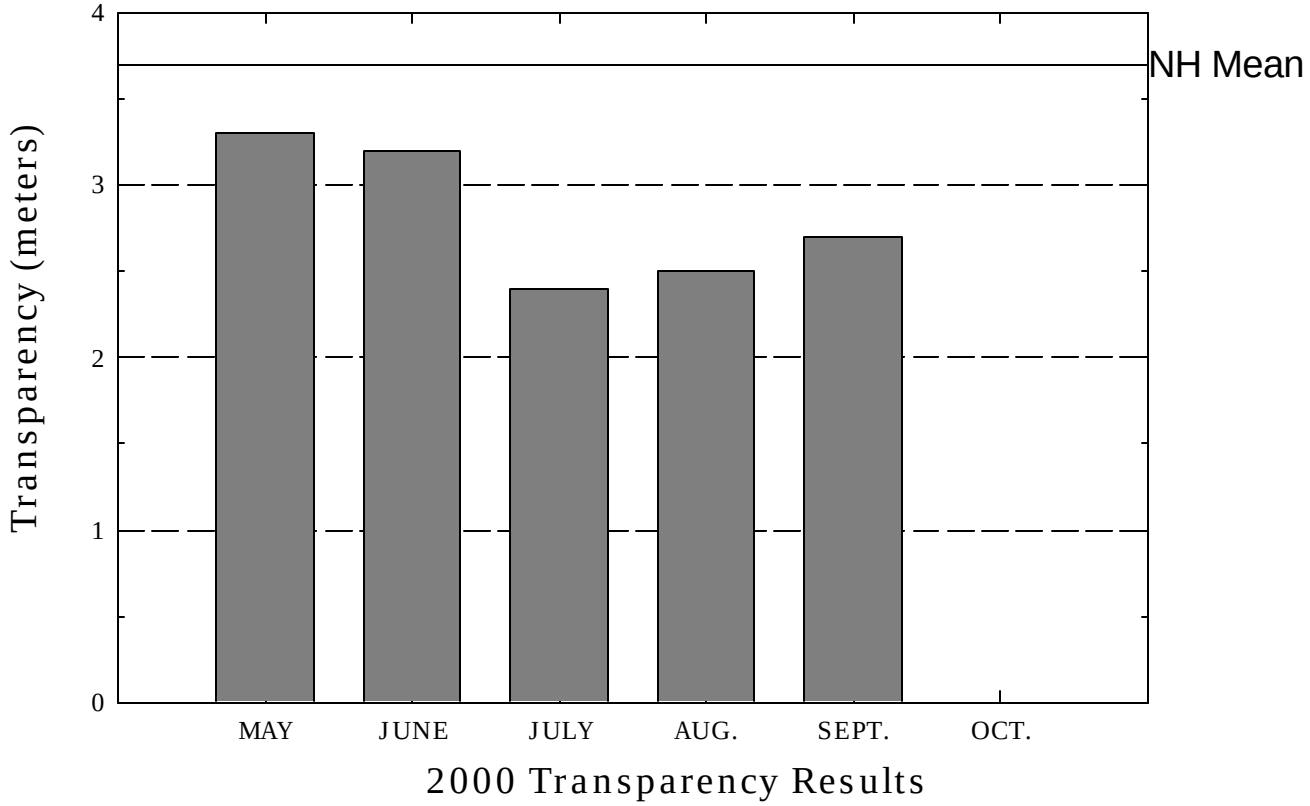
2000 Chlorophyll-a Results

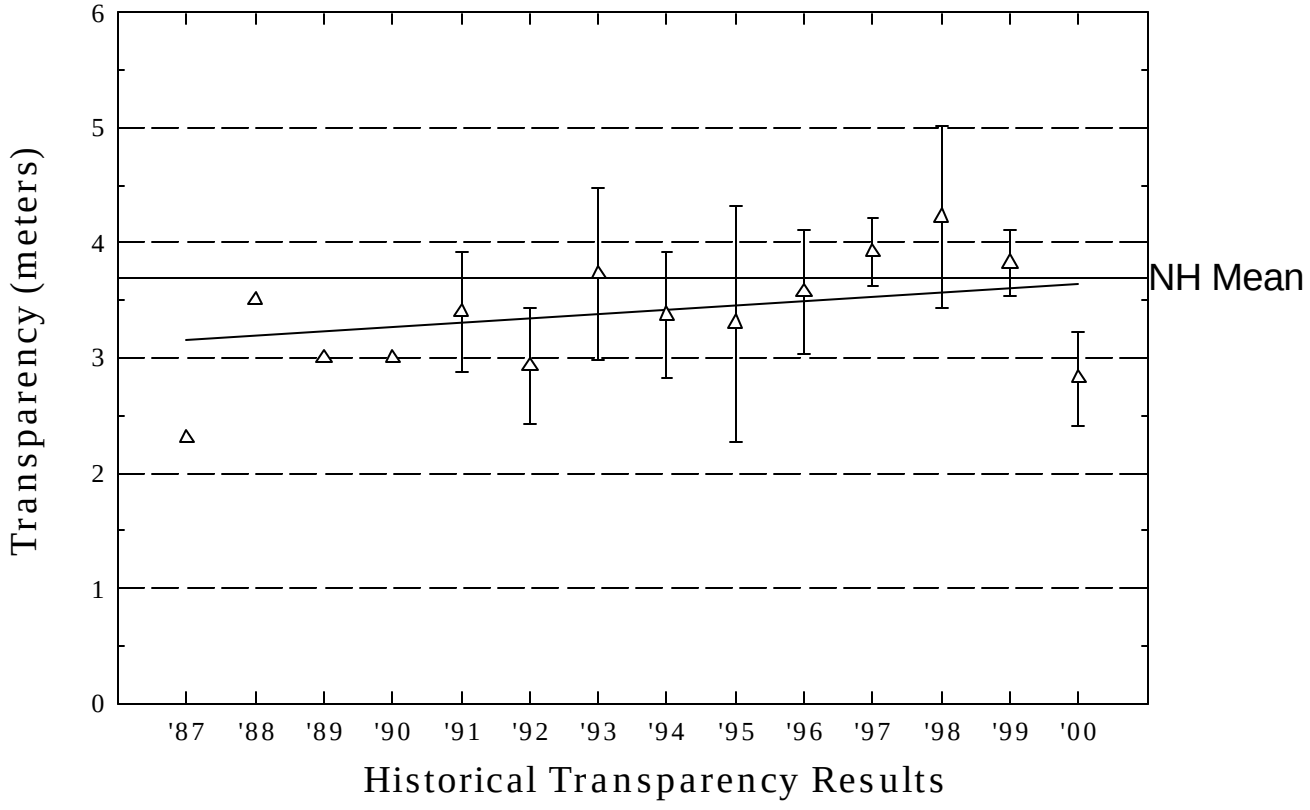


Historical Chlorophyll-a Results

Eastman Pond

Figure 2. Monthly and Historical Transparency Results





Forest Lake, Whitefield

Figure 3. Monthly and Historical Total Phosphorus Data.

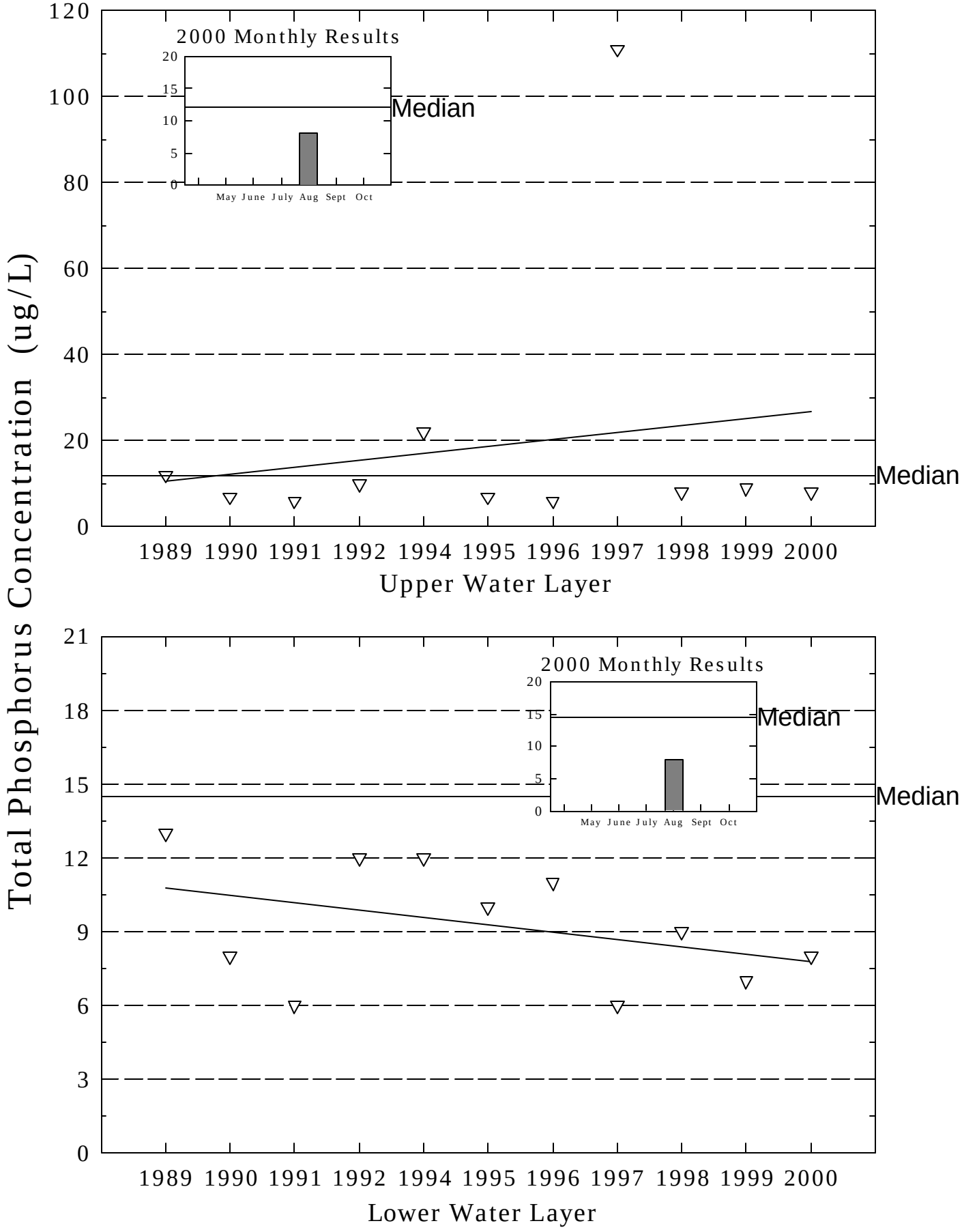


Table 1.

EASTMAN POND

GRANTHAM

Chlorophyll-a results (mg/m^3) for current year and historical sampling periods.

Year	Minimum	Maximum	Mean
1987	12.60	12.60	12.60
1988	4.70	8.70	7.02
1989	8.60	13.54	10.63
1990	5.24	7.76	6.50
1991	3.08	7.47	6.03
1992	3.48	16.47	7.66
1993	4.93	6.23	5.33
1994	4.03	17.72	9.41
1995	3.65	11.73	7.60
1996	2.94	6.38	4.09
1997	1.28	4.79	3.28
1998	0.69	4.72	2.99
1999	3.46	8.89	6.18
2000	3.98	7.78	6.26

Table 2.

EASTMAN POND

GRANTHAM

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
07/30/1987	CERATIUM	59
	SYNEDRA	18
02/18/1988	ASTERIONELLA	79
06/20/1988	ASTERIONELLA	38
	MELOSIRA	16
08/15/1989	ASTERIONELLA	78
	SYNEADA	
	MELOSIRA	
06/19/1990	MELOSIRA	30
	RHIZOSOLENIA	21
	ASTERIONELLA	15
06/19/1991	DINOBRYON	50
	MELOSIRA	30
06/16/1992	ASTERIONELLA	40
	MOUGEOTIA	30
	ANABAENA	24
07/16/1992	ASTERIONELLA	53
	RHIZOSOLENIA	13
	TABELLARIA	10
08/03/1992	SYNEDRA	49
	ANABAENA	18
	MELOSIRA	10
08/17/1992	MELOSIRA	34
	DINOBRYON	22
	TABELLARIA	9
08/26/1992	DINOBRYON	50
	CHRYSOSPHAERELLA	33
	TABELLARIA	9

Table 2.

EASTMAN POND

GRANTHAM

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
09 / 14 / 1992	ANABAENA	36
	MELOSIRA	18
	TABELLARIA	14
09 / 21 / 1992	ANABAENA	39
	MELOSIRA	18
	TABELLARIA	10
06 / 07 / 1993	DINOBRYON	50
07 / 08 / 1993	ASTERIONELLA	61
	DINOBRYON	16
07 / 20 / 1993	MELOSIRA	21
	ASTERIONELLA	21
	DINOBRYON	14
08 / 23 / 1993	DINOBRYON	50
	ASTERIONELLA	21
	CHRYSOSPHAERELLA	14
09 / 20 / 1993	DINOBRYON	45
	ASTERIONELLA	32
	MELOSIRA	9
06 / 06 / 1994	ASTERIONELLA	45
	DINOBRYON	34
07 / 11 / 1994	SYNEDRA	59
	RHIZOSOLENIA	11
	SYNURA	11
08 / 22 / 1994	ANABAENA	21
	DINOBRYON	21
	CHRYSOSPHAERELLA	16
09 / 26 / 1994	DINOBRYON	61
	CHRYSOSPHAERELLA	13
	MELOSIRA	11

Table 2.

EASTMAN POND

GRANTHAM

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
07/10/1995	DINOBRYON	42
	PENNATE DIATOM	12
	ASTERIONELLA	10
08/07/1995	CHRYSOSPHAERELLA	53
	DINOBRYON	17
	COELOSPHAERIUM	9
08/07/1995	CHRYSOSPHAERELLA	53
	DINOBRYON	17
	COELOSPHAERIUM	9
08/25/1995	SYNEARA	30
	RHIZOSOLENIA	15
	COELOSPHAERIUM	12
09/11/1995	CHRYSOSPHAERELLA	35
	MELOSIRA	34
	SPHAEROCYSTIS	8
09/11/1995	CHRYSOSPHAERELLA	35
	MELOSIRA	34
	SPHAEROCYSTIS	8
07/15/1996	CHRYSOSPHAERELLA	65
	SYNURA	25
	SYNEDRA	4
08/12/1996	SYNEDRA	26
	RHIZOSOLENIA	16
	COELOSPHAERIUM	15
09/25/1996	ASTERIONELLA	68
	DINOBRYON	11
08/20/1997	SYNEDRA	49
	MELOSIRA	23
	RHIZOSOLENIA	16
05/29/1998	MELOSIRA	38
	TRACHELOMONES	19
	ANABAENA	8

Table 2.

EASTMAN POND

GRANTHAM

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
06/17/1998	UROGLENOPSIS	61
	CYCLOTELLA	10
	RHIZOSOLENIA	5
07/15/1998	DINOBRYON	24
	ASTERIONELLA	19
	GLEOCYSTIS	13
08/10/1998	DINOBRYON	32
	SYNEDRA	13
	CERATIUM	13
08/12/1998	SYNURA	35
	CHRYSOSPHAERELLA	22
	DINOBRYON	11
07/12/1999	SYNEDRA	29
	CHRYSOPHAERELLA	22
	DINOBRYON	20
08/09/1999	SYNEDRA	33
	MELOSIRA	25
	CHALMYDOMONES	16
07/11/2000	ASTERIONELLA	60
	DINOBRYON	20
	RHIZOSOLENIA	14
08/21/2000	ASTERIONELLA	69
	RHIZOSOLENIA	24
	CERATIUM	3
09/25/2000	CHRYSOSPHAERELLA	54
	MOUGEOTIA	14
	RHIZOSOLENIA	10

Table 3.

EASTMAN POND

GRANTHAM

Summary of current and historical Secchi Disk transparency results (in meters).

Year	Minimum	Maximum	Mean
1987	2.3	2.3	2.3
1988	3.5	3.5	3.5
1989	3.0	3.0	3.0
1990	2.7	4.5	3.3
1991	2.7	4.0	3.2
1992	2.1	4.2	3.1
1993	3.3	4.6	3.8
1994	2.5	3.9	3.1
1995	2.4	4.5	3.3
1996	3.0	4.3	3.6
1997	3.6	4.3	3.9
1998	3.5	5.0	4.2
1999	2.8	4.2	3.5
2000	2.4	3.3	2.8

Table 4.

EASTMAN POND

GRANTHAM

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
#02 WC INLET A				
	1990	6.83	7.21	6.96
	1991	6.96	7.20	7.10
	1992	6.69	7.22	7.00
#03 WC INLET B				
	1992	6.65	7.22	6.91
#04 EAST COVE INLET				
	1992	6.79	7.24	6.99
#05 NORTH COVE INLET				
	1992	6.76	7.24	6.94
#06 STROING BROOK				
	1991	5.00	6.99	5.30
#07 NORTH END				
	1991	6.97	7.03	7.00
#08 NORTH BASIN				
	1991	6.97	7.13	7.05
#09 OUTLET DAM				
	1989	7.05	7.23	7.13
	1990	6.99	7.34	7.15
	1991	7.01	7.25	7.10

Table 4.

EASTMAN POND

GRANTHAM

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1992	6.84	7.35	7.05
#20 MILL POND DAM				
	1989	6.57	7.18	6.78
	1990	6.83	7.19	6.97
	1991	7.00	7.02	7.01
	1992	6.50	7.05	6.85
#21 OLD SPRING LANE				
	1992	6.50	7.17	6.89
#22 RT 89 CULVERT				
	1992	6.66	7.40	6.99
#23 BUTTERNUT RD END				
	1992	6.69	7.01	6.85
#24 ANDERSON POND				
	1992	6.60	6.86	6.71
#25 ANDERSON BK RRL				
	1992	6.25	6.68	6.45
#26 WC-C DRAIN 1				
	1992	6.10	6.67	6.34
#27 WC-C DRAIN 2				
	1992	6.20	6.93	6.41

Table 4.

EASTMAN POND

GRANTHAM

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
#38 WEST COVE BROOK				
	1994	7.00	7.30	7.15
#39 MILL POND BROOK				
	1993	6.45	7.39	6.73
	1994	6.96	7.16	7.05
	1995	7.06	7.67	7.25
	1996	6.58	7.21	6.83
	1997	6.81	7.21	7.03
	1998	6.88	7.39	7.14
	1999	6.07	7.27	6.64
	2000	6.76	7.10	6.90
#39 MILL POND UPSTRM				
	1998	7.35	7.35	7.35
#40 ANDERSON POND BK				
	1993	5.99	6.72	6.30
	1994	6.46	6.56	6.50
	1995	6.22	6.52	6.28
	1997	6.54	6.74	6.62
#41 WEST SHORE BROOK				
	1993	6.14	6.63	6.40
	1994	6.60	6.87	6.74

Table 4.

EASTMAN POND

GRANTHAM

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
#42 STROING BROOK UP				
	1998	6.24	6.24	6.24
#42 STROING BROOK				
	1993	5.52	6.17	5.74
	1994	5.00	5.77	5.25
	1995	5.23	6.50	5.66
	1996	4.55	6.18	4.94
	1997	5.32	6.26	5.64
	1998	5.26	6.88	5.71
	1999	5.18	7.20	5.56
	2000	5.01	5.99	5.32
#43 NORTHEAST BROOK				
	1993	5.21	5.98	5.48
	1994	5.29	5.86	5.52
	1995	5.08	6.29	5.32
	1996	4.88	6.28	5.24
	1997	5.57	6.08	5.77
#44A NO COVE EAST BK				
	1993	5.54	6.21	5.76
	1994	5.41	5.89	5.59
#44B NO COVE WEST BK				
	1993	5.80	6.58	6.08

Table 4.

EASTMAN POND

GRANTHAM

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1994	5.57	6.34	5.88
#45 TAMARI BROOK				
	1993	6.38	6.87	6.63
	1994	6.65	6.78	6.71
#46 PRICE BROOK				
	1993	5.94	6.03	5.99
	1994	5.99	6.37	6.18
#47 WHITING BROOK				
	1993	5.75	5.84	5.80
	1994	5.66	6.13	5.93
#48 LYONS BROOK				
	1993	6.43	7.31	6.67
	1994	6.71	7.15	6.87
	1995	6.57	7.78	6.80
	1996	6.16	7.19	6.42
	1997	6.69	7.02	6.78
#49 EASTMAN OUTLET				
	1993	6.74	7.17	6.96
	1994	6.78	7.16	6.99
14TH HOLE				
	1996	6.70	7.16	6.94

Table 4.

EASTMAN POND

GRANTHAM

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
BUTTERNUT BROOK				
	1997	6.53	7.12	6.69
E. LAKE CONDO SHORE				
	1991	7.06	7.06	7.06
EPILIMNION				
	1987	6.38	6.38	6.38
	1988	6.43	7.27	6.81
	1989	6.57	7.12	6.84
	1990	7.14	7.33	7.24
	1991	6.98	7.32	7.06
	1992	6.72	7.34	7.02
	1993	6.64	7.27	6.86
	1994	6.50	7.28	6.87
	1995	6.80	7.24	7.03
	1996	5.60	7.32	6.21
	1997	6.82	7.13	6.96
	1998	6.83	7.15	6.94
	1999	6.68	7.30	6.93
	2000	6.75	7.02	6.86
HYPOLIMNION				
	1987	6.67	6.67	6.67
	1988	6.29	6.47	6.35
	1989	6.20	6.40	6.29

Table 4.

EASTMAN POND

GRANTHAM

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1990	6.31	6.84	6.44
	1991	6.47	6.95	6.57
	1992	6.37	7.01	6.63
	1993	6.26	6.90	6.36
	1994	6.53	6.81	6.67
	1995	6.30	6.84	6.50
	1996	6.41	7.23	6.65
	1997	6.22	6.58	6.37
	1998	6.27	6.50	6.35
	1999	6.16	6.64	6.37
	2000	6.23	6.61	6.34
INLET				
	1988	6.89	7.19	7.04
	1989	6.84	7.21	6.97
LYONS BROOK UPSTREAM				
	1997	5.67	6.21	5.91
MERGED BROOKS				
	1997	6.53	7.12	6.87
METALIMNION				
	1987	6.51	6.51	6.51
	1988	6.69	6.97	6.82
	1989	6.50	7.00	6.74
	1990	6.78	6.80	6.79

Table 4.

EASTMAN POND

GRANTHAM

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1991	6.77	7.10	6.97
	1992	6.75	7.32	6.98
	1993	6.10	6.97	6.33
	1994	6.30	6.77	6.51
	1995	6.10	6.96	6.47
	1996	6.58	7.02	6.72
	1997	6.23	6.74	6.46
	1998	6.35	6.76	6.46
	1999	6.22	6.83	6.38
	2000	6.14	6.42	6.30
NORTHEAST				
	1991	6.93	6.93	6.93
OUTLET				
	1988	6.35	6.94	6.64
	1989	6.90	6.90	6.90
STONY BROOK				
	1997	6.97	7.52	7.23
WEST COVE BEACH				
	1993	7.00	7.00	7.00
WEST COVE LAGOON				
	1997	6.85	7.06	6.94

Table 5.

EASTMAN POND

GRANTHAM

Summary of current and historical Acid Neutralizing Capacity.
Values expressed in mg/L as CaCO .

Epilimnetic Values

Year	Minimum	Maximum	Mean
1987	4.80	4.80	4.80
1988	8.70	10.10	9.53
1989	9.00	9.50	9.33
1990	7.90	8.90	8.47
1991	7.70	9.30	8.70
1992	7.40	10.40	8.65
1993	6.00	9.00	7.67
1994	6.00	22.90	10.66
1995	6.00	21.00	10.66
1996	3.20	7.00	5.28
1997	4.60	6.50	5.90
1998	3.10	8.00	6.23
1999	6.00	8.90	7.77
2000	6.10	18.80	9.60

Table 6.

EASTMAN POND
GRANTHAM

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
#02 WC INLET A				
	1990	64.6	114.4	97.2
	1991	96.6	190.1	149.3
	1992	101.2	129.1	121.7
#03 WC INLET B				
	1992	103.3	178.5	134.4
#04 EAST COVE INLET				
	1992	120.7	129.2	125.7
#05 NORTH COVE INLET				
	1992	121.9	129.1	126.1
#06 STROING BROOK				
	1991	40.0	101.2	70.6
#07 NORTH END				
	1991	100.3	104.2	102.5
#08 NORTH BASIN				
	1991	94.5	104.1	100.3
#09 OUTLET DAM				
	1989	106.9	108.4	107.6
	1990	99.7	101.0	100.2
	1991	95.0	105.6	101.0
	1992	120.0	129.1	125.8
#20 MILL POND DAM				
	1989	159.4	172.6	166.0

Table 6.

EASTMAN POND
GRANTHAM

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1990	69.3	135.1	102.9
	1991	95.3	175.5	135.4
	1992	97.7	203.0	135.5
#21 OLD SPRING LANE				
	1992	89.3	192.1	131.6
#22 RT 89 CULVERT				
	1992	106.3	305.0	178.3
#23 BUTTERNUT RD END				
	1992	29.3	169.5	69.0
#24 ANDERSON POND				
	1992	39.9	40.4	40.1
#25 ANDERSON BK RRL				
	1992	78.7	185.0	144.0
#26 WC-C DRAIN 1				
	1992	392.0	444.0	412.9
#27 WC-C DRAIN 2				
	1992	226.1	264.0	242.0
#38 WEST COVE BROOK				
	1994	182.3	225.0	197.6
#39 MILL POND BROOK				
	1993	110.2	234.7	171.2
	1994	79.2	186.8	135.4
	1995	127.4	378.0	218.9

Table 6.

EASTMAN POND
GRANTHAM

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1996	55.3	235.0	125.1
	1997	89.8	276.0	189.8
	1998	28.7	207.0	134.0
	1999	146.2	427.0	277.9
	2000	112.3	239.0	174.8
#39 MILL POND UPSTRM				
	1998	267.0	267.0	267.0
#40 ANDERSON POND BK				
	1993	98.5	197.6	131.2
	1994	76.8	133.3	103.3
	1995	104.4	132.8	121.9
	1997	31.2	44.6	39.9
#41 WEST SHORE BROOK				
	1993	473.1	528.0	496.9
	1994	469.2	638.0	560.4
#42 STROING BROOK UP				
	1998	248.0	248.0	248.0
#42 STROING BROOK				
	1993	44.9	79.1	55.3
	1994	44.7	78.1	55.6
	1995	54.0	248.0	144.0
	1996	41.4	94.3	69.7
	1997	65.9	421.0	189.8
	1998	67.4	310.0	140.4

Table 6.

EASTMAN POND
GRANTHAM

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1999	126.2	325.0	227.5
	2000	40.4	199.0	97.1
#43 NORTHEAST BROOK				
	1993	72.0	142.4	107.3
	1994	75.5	129.6	104.4
	1995	114.3	247.0	172.6
	1996	72.8	251.0	125.5
	1997	104.5	1017.0	302.3
#44A NO COVE EAST BK				
	1993	362.0	525.9	452.9
	1994	414.0	654.0	487.0
#44B NO COVE WEST BK				
	1993	638.3	737.0	685.7
	1994	422.0	734.0	599.2
#45 TAMARI BROOK				
	1993	755.5	929.0	821.9
	1994	679.0	771.0	728.8
#46 PRICE BROOK				
	1993	554.1	875.0	697.7
	1994	441.0	705.0	609.1
#47 WHITING BROOK				
	1993	474.0	552.0	515.3
	1994	405.0	504.0	468.2

Table 6.

EASTMAN POND
GRANTHAM

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
#48 LYONS BROOK				
	1993	486.9	571.0	536.0
	1994	480.0	590.0	536.2
	1995	136.4	661.0	328.4
	1996	339.0	642.0	526.2
	1997	169.7	767.0	576.1
#49 EASTMAN OUTLET				
	1993	121.7	132.6	126.6
	1994	121.5	230.0	147.5
14TH HOLE				
	1996	192.5	330.0	251.5
BUTTERNUT BROOK				
	1997	22.4	35.5	30.6
E. LAKE CONDO SHORE				
	1991	100.5	100.5	100.5
EPILIMNION				
	1987	102.6	102.6	102.6
	1988	95.6	102.1	98.6
	1989	107.4	109.8	108.2
	1990	99.1	101.0	100.3
	1991	96.4	105.0	101.3
	1992	114.6	128.5	123.4
	1993	119.0	127.7	123.2
	1994	115.4	130.0	122.0

Table 6.

EASTMAN POND
GRANTHAM

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1995	125.2	152.7	142.5
	1996	123.4	142.4	131.0
	1997	126.9	137.0	131.2
	1998	153.4	159.4	157.4
	1999	166.6	180.5	173.6
	2000	156.9	164.0	160.8
HYPOLIMNION				
	1987	117.2	117.2	117.2
	1988	97.7	104.6	100.8
	1989	115.2	116.5	115.8
	1990	98.4	102.4	100.9
	1991	95.8	104.9	100.8
	1992	123.3	160.5	135.2
	1993	120.8	138.3	127.7
	1994	117.7	140.3	128.2
	1995	123.9	152.3	142.7
	1996	127.9	141.3	133.7
	1997	128.6	143.9	134.9
	1998	160.4	174.4	165.3
	1999	163.8	184.9	175.9
	2000	159.6	177.0	167.8
INLET				
	1988	108.9	234.0	181.2
	1989	93.4	142.7	123.2

Table 6.

EASTMAN POND
GRANTHAM

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
LYONS BROOK UPSTREAM				
	1997	166.5	818.0	578.1
MERGED BROOKS				
	1997	134.7	288.0	205.7
METALIMNION				
	1987	100.8	100.8	100.8
	1988	96.4	103.4	99.2
	1989	108.5	109.4	109.0
	1990	96.9	98.0	97.4
	1991	96.5	104.5	101.0
	1992	119.6	129.4	124.5
	1993	121.0	127.0	123.9
	1994	119.4	128.3	122.5
	1995	124.2	152.2	139.7
	1996	123.4	129.4	126.9
	1997	119.8	137.0	127.0
	1998	155.8	161.0	157.9
	1999	166.6	178.0	171.1
	2000	156.1	163.2	159.9
NORTHEAST				
	1991	103.0	103.0	103.0
OUTLET				
	1988	95.6	102.4	99.0
	1989	108.8	108.8	108.8

Table 6.

EASTMAN POND
GRANTHAM

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
STONY BROOK				
	1997	101.4	459.0	297.0
WEST COVE BEACH				
	1993	120.5	120.5	120.5
WEST COVE LAGOON				
	1997	173.7	189.4	181.5

Table 8.

EASTMAN POND

GRANTHAM

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
#02 WC INLET A				
	1990	11	17	14
	1991	12	14	13
	1992	5	14	9
#03 WC INLET B				
	1992	8	15	11
#04 EAST COVE INLET				
	1992	4	11	8
#05 NORTH COVE INLET				
	1992	5	12	8
#06 STROING BROOK				
	1991	8	10	9
#07 NORTH END				
	1991	8	12	9
#08 NORTH BASIN				
	1991	9	14	11
#09 OUTLET DAM				
	1989	5	9	7
	1990	8	12	9
	1991	6	11	8
	1992	6	12	9
#20 MILL POND DAM				
	1989	9	15	12
	1990	12	14	13

Table 8.

EASTMAN POND

GRANTHAM

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1991	12	13	12
	1992	3	10	8
#21 OLD SPRING LANE				
	1992	5	6	5
#22 RT 89 CULVERT				
	1992	5	12	8
#23 BUTTERNUT RD END				
	1992	5	18	8
#24 ANDERSON POND				
	1992	19	19	19
#25 ANDERSON BK RRL				
	1992	10	14	12
#26 WC-C DRAIN 1				
	1992	6	10	8
#27 WC-C DRAIN 2				
	1992	6	6	6
#38 WEST COVE BROOK				
	1994	2	28	10
#39 MILL POND BROOK				
	1993	4	13	7
	1994	9	22	15
	1995	8	21	11
	1996	10	19	14

Table 8.

EASTMAN POND

GRANTHAM

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1997	8	66	21
	1998	7	30	14
	1999	6	31	15
	2000	4	12	8
#39 MILL POND UPSTRM				
	1998	7	7	7
#40 ANDERSON POND BK				
	1993	9	38	13
	1994	6	31	19
	1995	8	16	12
	1997	11	21	16
#41 WEST SHORE BROOK				
	1993	2	36	9
	1994	1	30	13
#42 STROING BROOK UP				
	1998	13	13	13
#42 STROING BROOK				
	1993	11	64	22
	1994	8	55	25
	1995	10	21	15
	1996	2	17	11
	1997	6	49	19
	1998	17	26	20

Table 8.

EASTMAN POND

GRANTHAM

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1999	11	20	17
	2000	4	16	9
#43 NORTHEAST BROOK				
	1993	7	43	13
	1994	5	32	15
	1995	4	19	13
	1996	2	29	14
	1997	6	44	16
#44 NORTH COVE BEACH				
	1993	3	3	3
#44A NO COVE EAST BK				
	1993	3	41	12
	1994	2	12	5
#44B NO COVE WEST BK				
	1993	3	48	9
	1994	1	****	2134
#45 TAMARI BROOK				
	1993	6	430	42
	1994	4	30	17
#46 PRICE BROOK				
	1993	2	700	120
	1994	1	980	200

Table 8.

EASTMAN POND

GRANTHAM

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
#47 WHITING BROOK				
	1993	3	16	8
	1994	2	11	6
#48 LYONS BROOK				
	1993	13	26	17
	1994	8	66	36
	1995	7	30	18
	1996	8	27	21
	1997	10	21	14
#49 EASTMAN OUTLET				
	1993	3	65	11
	1994	6	13	9
14TH HOLE				
	1995	20	1075	204
	1996	27	250	93
BUTTERNUT BROOK				
	1997	6	7	6
E. LAKE CONDO SHORE				
	1991	6	6	6
EPILIMNION				
	1987	10	15	11
	1988	4	17	11
	1989	7	19	12

Table 8.

EASTMAN POND

GRANTHAM

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1990	5	12	8
	1991	7	9	8
	1992	8	17	10
	1993	5	13	8
	1994	6	26	11
	1995	5	9	7
	1996	6	13	10
	1997	2	8	5
	1998	1	4	2
	1999	4	10	6
	2000	0	11	6
HYPOLIMNION				
	1987	22	22	22
	1988	4	20	12
	1989	12	18	15
	1990	11	15	12
	1991	10	52	22
	1992	7	18	11
	1993	7	140	54
	1994	10	41	23
	1995	10	55	22
	1996	5	26	14
	1997	9	23	14
	1998	6	13	9

Table 8.

EASTMAN POND

GRANTHAM

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1999	6	22	10
	2000	4	48	14
INLET				
	1988	2	21	13
	1989	10	18	13
LYONS BROOK UPSTREAM				
	1997	30	35	32
MERGED BROOKS				
	1997	4	12	8
METALIMNION				
	1987	21	21	21
	1988	3	15	11
	1989	8	20	13
	1990	11	13	12
	1991	8	10	8
	1992	7	11	9
	1993	6	12	8
	1994	6	14	11
	1995	3	11	8
	1996	6	13	8
	1997	4	12	8
	1998	2	9	4
	1999	5	29	12
	2000	1	13	7

Table 8.

EASTMAN POND

GRANTHAM

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
MILL POND				
	1994	30	30	30
NORTHEAST				
	1991	10	10	10
OUTLET				
	1988	4	13	8
	1989	12	12	12
STONY BROOK				
	1997	1	13	6
WEST COVE BEACH				
	1993	4	4	4
WEST COVE LAGOON				
	1997	4	6	5

Table 10.

EASTMAN POND

GRANTHAM

Historic Hypolimnetic dissolved oxygen and temperature data.

Date	Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
July 30, 1987	11.0	10.9	0.1	1.0
February 18, 1988	9.5	3.0	3.6	26.0
June 20, 1988	10.5	8.9	-0.2	-2.6
August 15, 1989	9.0	8.1	1.2	10.0
June 19, 1990	10.0	9.0	0.4	3.4
June 19, 1991	10.5	12.3	0.1	0.9
June 16, 1992	9.0	7.0	0.0	0.0
June 16, 1992	9.5	6.9	0.0	0.0
August 17, 1992	11.5	8.0	0.2	1.7
June 7, 1993	10.0	7.5	1.9	15.0
August 20, 1997	11.0	11.1	0.6	5.0
May 27, 1998	1.0	64.0	9.8	100.0
May 27, 1998	9.5	48.0	5.0	42.0
June 17, 1998	9.5	52.0	4.1	37.0
July 15, 1998	10.0	52.0	0.8	7.0
August 10, 1998	9.5	56.0	2.1	20.0
August 12, 1998	11.0	10.2	0.2	1.0
August 16, 1999	8.5	11.8	0.5	4.4
August 26, 1999	8.5	11.1	0.7	6.0

Table 11.

EASTMAN POND
GRANTHAM

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
#39 MILL POND BROOK				
	1995	1.7	9.7	4.3
	1996	1.2	4.7	3.2
	1997	0.9	2.5	1.5
	1998	1.1	1.3	1.2
	1999	1.0	2.2	1.6
	2000	0.8	2.1	1.5
#39 MILL POND UPSTRM				
	1998	2.5	2.5	2.5
#40 ANDERSON POND BK				
	1995	0.3	0.4	0.3
	1997	1.0	2.0	1.3
#42 STROING BROOK UP				
	1998	0.8	0.8	0.8
#42 STROING BROOK				
	1995	0.3	1.4	0.7
	1996	0.0	0.7	0.3
	1997	0.3	0.6	0.4
	1998	0.3	1.1	0.5
	1999	0.6	3.6	1.4
	2000	0.3	0.9	0.6
#43 NORTHEAST BROOK				
	1995	0.0	2.4	0.6
	1996	0.2	24.6	5.3

Table 11.

EASTMAN POND
GRANTHAM

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
	1997	0.2	9.2	2.6
#48 LYONS BROOK				
	1995	2.4	6.3	4.3
	1996	0.1	10.3	4.1
	1997	1.4	2.8	2.3
14TH HOLE				
	1996	4.8	52.8	16.2
BUTTERNUT BROOK				
	1997	0.2	1.0	0.5
EPILIMNION				
	1995	0.9	2.1	1.4
	1996	0.8	1.7	1.2
	1997	0.4	1.0	0.7
	1998	0.9	1.1	1.0
	1999	0.8	2.4	1.3
	2000	0.5	1.7	1.0
HYPOLIMNION				
	1995	4.2	5.3	4.8
	1996	0.9	6.3	3.3
	1997	4.1	9.2	5.8
	1998	1.7	19.0	6.1
	1999	1.2	9.3	5.1
	2000	2.1	4.2	3.1
LYONS BROOK UPSTREAM				
	1997	1.2	30.3	11.2

Table 11.

EASTMAN POND

GRANTHAM

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
MERGED BROOKS				
	1997	0.6	2.1	1.4
METALIMNION				
	1995	0.9	1.9	1.4
	1996	1.0	1.7	1.3
	1997	0.6	1.0	0.8
	1998	0.7	1.3	0.9
	1999	0.9	1.6	1.2
	2000	0.4	1.4	1.0
STONY BROOK				
	1997	0.3	2.3	0.9
WEST COVE LAGOON				
	1997	1.5	2.6	2.0

Table 12.

EASTMAN POND

GRANTHAM

Summary of current year bacteria sampling.
Results in counts per 100ml.

Location	Date	E. Coli See Note Below
#39 MILL POND BROOK		
	May 22	12
	June 26	40
	July 11	49
	August 14	12
	September 11	1
#42 STROING BROOK		
	May 22	1
	June 26	7
	July 11	9
	August 14	8
	September 11	20
#44 NORTH COVE BEACH		
	June 26	1
	August 14	0
	September 11	6
EAST COVE BEACH		
	June 26	1
	July 11	7
	August 14	0
	September 11	0
MILL POND BEACH		
	June 26	31
	July 11	115
	August 14	22
	September 11	0
NORTH COVE BEACH		

NOTE: "<" means "less than" and ">" means "greater than"

Table 12.

EASTMAN POND

GRANTHAM

Summary of current year bacteria sampling.
Results in counts per 100ml.

Location	Date	E. Coli See Note Below
NORTH COVE BEACH		
	July 11	4
SOUTH COVE BEACH		
	June 26	0
	July 11	18
	August 14	0
	September 11	3
WEST COVE BEACH		
	June 26	10
	July 11	5
	August 14	0
	September 11	1

NOTE: "<" means "less than" and ">" means "greater than"